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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,190	05/31/2006	Poul Erik Braad	13261.0030USWO	2286
23552 7590 10/02/2008 MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903				
EXAMINER				
O HERN, BRENT T				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
10/02/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/572,190

**Applicant(s)**

BRAAD, POUL ERIK

**Examiner**

Brent T. O'Hern

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 August 0208.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 39-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 and 50-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 6/5/2006, 3/15/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-38 and 50-54, directed to the pipe in the reply filed on 5 August 2008 is acknowledged. The traversal is on the ground(s) that the teachings of the references are different from the limitations of independent claim #1. This is not found persuasive because Applicant has not addressed the basis of the restriction requirement for the pipe and method of producing the pipe. It is further noted that Procida (WO 03/078134) obviously teaches the pipe of Independent claim #1. The only difference is the thickness of the inner layer. Since Procida's (WO 03/078134) combination of two or three or more sublayers equals about 2 mm then the inner layer is either 1 mm or less or it would have been obvious to provide such for ease of processing and cost reasons.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-38 and 50-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Procida (WO 03/078134).

Procida ('134) teaches a flexible unbonded multilayer pipe with a flexible liner having sandwiched sublayers that is satisfactory for use with sub-sea drilling operations

and the high pressure and temperature and chemicals associated therewith, the pipe comprising at least one polymer layer made from polyolefins, which contain carbon atoms, such as cross-linked, with covalent or ionic chemically bonded, polyethylene, polyamides and polyvinylidene difluoride (PVDF) with a polymer layer being the innermost sublayer individually, extruded into the supporting or onto a supporting unit. The structure may have metal particles and/or metal foil, armouring and a carcass and a folded tape wound around other layers in various combinations. The polymer containing layers have a thickness of 4 mm or more with the polymeric/sublayers having a combined thickness of 2 mm or less or 25  $\mu\text{m}$  or more depending on how the structure is used, thus, providing for the polymer layer to be at least 10 times thicker than the film. The film layer providing a fluid permeation barrier against one or more of the fluids such as methane at a partial pressure of 1 bar or more, hydrogen sulfides at a partial pressure of 0.03 bars or more, carbon dioxide at 1 bar or more and water, which is clearly higher than the fluid permeation barrier provided by the polymer layer determined at 50 °C (*See p. 5, l. 34- p. 6, l. 23, p. 2, ll. 1-34, p. 8, l. 7 to col. 9, l. 23, col. 12, l. 34 to col. 13, l. 1, col. 13, ll. 27-36, col. 18, l. 23 to col. 19, l. 10, col. 20, ll. 14-23, col. 23, l. 32 to col. 24, ll. 12-32 and col. 29, ll. 16-24 where the liner and pipe is effective at providing an effective flexible barrier for fluids operating under high pressures and elevated temperatures such as 60 °C.*), however, fails to expressly disclose the film being essentially impermeable to at 50 °C and a pressure difference of 50 bar, the bonding including the interfacial bondings between the polymer layer and the film layer being stronger than the internal bondings/cohesion in one of the polymer layer and the

film layer, the interfacial bonding between the polymer layer and the film being sufficiently strong enough to prevent gas pockets between the layers when subjected to an increased carbon dioxide pressure of 5 bar on the film side of the pipe, wherein the bonding between the polymer layer and the film layer has a peel strength using ASTM D3330 of at least 300 N/m, the bonding between the polymer layer and the film layer being stronger than the cohesive forces in one of the polymer layer and the film layer measured by a 90 ° peel test, the surface of the film facing the polymer layer comprises a primer, with the fluid permeation barrier being at least 50% higher than the fluid permeation barrier provided by the polymer layer determined at 50 °C and a pressure difference of 50 bar, the film having a thickness of 1 mm or less and the film layer providing a fluid permeation barrier provided by the polymer layer at a pressure difference of 50 bar, the metal being aluminum, stainless steel or duplex.

However, Procida ('134) teaches a multilayer flexible long unbonded pipe made of the same generic structure, polymeric materials and other materials that are usable and functional in off shore application and subject to the same conditions as Applicant's invention, such as elevated pressures and temperatures, marine conditions, chemicals, etc. associated with sub-sea drilling operations. Furthermore, the polymeric structure can be 2 mm thick or thinner, with sublayers, depending on the contemplated use (See *p. 21, l. 19 to p. 22, l. 2.*). The methods of manufacturing including various cross-linking, heating systems and exposure times vary depending on how the product is used and the compositions and thicknesses of the layers. The layers can be coextruded, extruded into or onto other layers or prepared individually and subsequently united.

Thus, because of the above variable and differing formulations, the bonding strengths and relative bonding strengths vary accordingly. Furthermore, aluminum and stainless steel are known to have increased resistance as opposed to other metallic materials, to degradation that takes place in marine environments (*See pp. 5-24.*).

Therefore, it would have been obvious to a person having ordinary skill in the art that Procida's ('134) pipe either has the above properties or it would have been obvious through routine optimization at the time Applicant's invention was made to select the above materials and use a known effective manufacturing processes in order to provide a flexible unbonded pipe having the above properties that is suitable for offshore piping.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent T. O'Hern whose telephone number is (571)272-0496. The examiner can normally be reached on Monday-Thursday, 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brent T O'Hern/  
Examiner, Art Unit 1794  
September 23, 2008

/Elizabeth M. Cole/  
Primary Examiner, Art Unit 1794